



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/676,312

09/30/2003

Hao Pan

SLA1347 (7146.0167)

8186

55648

7590

12/15/2008

KEVIN L. RUSSELL

CHERNOFF, VILHAUER, MCCLUNG & STENZEL LLP

1600 ODS TOWER

601 SW SECOND AVENUE

PORTLAND, OR 97204

EXAMINER

KOVALICK, VINCENT E

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

12/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/676,312	<b>Applicant(s)</b> PAN ET AL.	
	<b>Examiner</b> VINCE E. KOVALICK	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 is/are allowed.
- 6) ☐ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to Applicant's Amendment dated October 28, 2008, in response to USPTO office action dated July 28, 2008.

The amendments to claims 1-2 and the addition of new claim 4 have been entered in the record and considered in this action.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim (USP 5,434,622 taken with Pan et al. Pub. No. 2005/0068343).

Relative to claim 1, Lim **teaches** image signal encoding apparatus using adaptive frame/field format compression ( col. 3, lines 40-64); Lim further **teaches** a method of modifying a video image comprising a plurality of sequential frames to be displayed on a display; (a) receiving at least a portion of a current frame of said video image; and (b) modifying said current frame to alternatively increase or decrease the luminance output of a pixel of said current frame by overdriving said pixel to a current value automatically selected

Art Unit: 2629

based upon: at least one predicted displayed luminance value of said pixel in respective ones of at least one subsequent frame of said video image (col. 1, lines 41-52).

Lim **does not teach** at least one previously displayed luminance value of said pixel in respective ones of at least one previous frame of said video image, or overdriving a pixel to a current value.

Pan et al. **teaches** an overdrive system for displaying images on a display (pgs. 1-3, paras. 0001-0026); Pan et al. further **teaches** overdriving a pixel to a current value (pg. 10, para. 0182) and at least one previously displayed luminance value of said pixel in respective ones of at least one previous frame of said video image (pg. 12, claim 6).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Lim the feature as taught by Pan et al. in order put in place the brightness level of a pixel in a previous frame to be coupled with the said predicted pixel brightness level to establish the base for generate the desired brightness level of the current pixel.

Regarding claim 2, Lim taken with Pan et al. does not specifically teach “ at least one previously displayed luminance value of a pixel being stored in a respective frame buffer”; said feature being in common practice in the manipulation of data being processed for display. Because this step is in common practice and well known in the art, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include this step in the method steps as taught by Lim taken with Pan et.

*Allowable Subject Matter*

4. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 3, the major difference between the teachings of the prior art of record (USP 5,434,622, Lim and Pub. No. 2005/0068343, Pan et al.) and that of the instant invention is that said prior art **does not teach** the method where a first previously displayed luminance value is at a state where liquid crystal material associated with said pixel of said display is not at an equilibrium state, and where a second said previously displayed luminance value is at a state where said liquid crystal material associated with said pixel is at an equilibrium state, and where said second said previously displayed luminance value is from the earliest said at least one frame, upon which selection of said current value is based.

5. Claim 4 is allowed.

6. The following is an examiner's statement of reasons for allowance:

Relative to claim 4, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art **does not teach** a method of modifying an image to be displayed on a display; (a) receiving at least a portion of said image; and (b) modifying said image to alternatively increase or decrease the luminance output of a pixel of said image by overdriving said pixel to a current value that is elected based upon: (i) at least one predicted displayed luminance value of said pixel in respective ones of at least one subsequent frame of said image; and (ii) at least one previously displayed luminance value of said pixel in respective ones of at least one previous frame of said image, wherein said at least

Art Unit: 2629

one previously displayed luminance value of said pixel is stored in a respective frame buffers; where (c) a first said previously displayed luminance value is at a state where liquid crystal material associated with said pixel of said display is not at an equilibrium state, and where a second said previously displayed luminance value is at a state where said liquid crystal material associated with said pixel is at an equilibrium state, and where said second said previously displayed luminance value is from the earliest said at least one frame, upon which selection of said current value is based.

***Response to Applicant's Remarks***

7. Applicant's remark regarding the limitation of "overdriving a pixel to a current value" is addressed in item 3 hereinabove by the teaching of Pan et al. (Pub. No. 2005/0068343).

***Final Rejection***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pub. No. 2003/0006949 Sekiya et al.

Pub. No. 2002/0024017 Overdick et al.

***To Respond***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINCE E. KOVALICK whose telephone number is (571)272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vincent E Kovalick/  
Examiner, Art Unit 2629  
December 11, 2008

/Bipin Shalwala/  
Supervisory Patent Examiner, Art Unit  
2629

Application/Control Number: 10/676,312

Page 7

Art Unit: 2629